

2004 GALVESTON BAY INVASIVE SPECIES RISK ASSESSMENT

INVASIVE SPECIES SUMMARY

Created by: Environmental Institute of Houston, University of Houston-Clear Lake
and the Houston Advanced Research Center

Common Name: Common water hyacinth																							
Latin Name: <i>Eichhornia crassipes</i>																							
Category: Aquatic Plant																							
Place of Origin: South America																							
Place of Introduction: New Orleans																							
Date of Introduction: 1884 http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html (Accessed 17 March 2003).																							
States Effected: <table> <tr> <td>Alabama</td><td>Florida</td><td>Kentucky</td><td>Missouri</td><td>Puerto Rico</td><td>Texas</td></tr> <tr> <td>Arizona</td><td>Georgia</td><td>Louisiana</td><td>New York</td><td>South Carolina</td><td>Virgin Islands</td></tr> <tr> <td>California</td><td>Hawaii</td><td>Mississippi</td><td>North Carolina</td><td>Tennessee</td><td>Virginia</td></tr> </table> http://plants.usda.gov/cgi_bin/plant_profile.cgi?symbol=EICR (Accessed 17 March 2003).						Alabama	Florida	Kentucky	Missouri	Puerto Rico	Texas	Arizona	Georgia	Louisiana	New York	South Carolina	Virgin Islands	California	Hawaii	Mississippi	North Carolina	Tennessee	Virginia
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Life History: "Water hyacinth reproduces sexually by seeds and vegetatively by budding and stolen production. Daughter plants sprout from the stolons and doubling times have been reported of 6-18 days. The seeds can germinate in a few days or remain dormant for 15-20 years. They usually sink and remain dormant until periods of stress (droughts). Upon reflooding, the seeds often germinate and renew the growth cycle." http://www.wapms.org/plants/hyacinth.html (Accessed 17 March 2003).																							
Growth/Size: <ul style="list-style-type: none"> • "Its growth rate is among the highest of any plant known: hyacinth populations can double in as little as 12 days." • "Plants grow in ponds, canals, rivers, ditches, and impoundments, reproducing by vegetative runners or stolons. Seeds do germinate and produce new plants in some part of the species range." http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html • "Water hyacinth reproduces sexually by seeds and vegetatively by budding and stolen production. Daughter plants sprout from the stolons and doubling times have been reported of 6-18 days. The seeds can germinate in a few days or remain dormant for 15-20 years. They usually sink and remain dormant until periods of stress (droughts). Upon reflooding, the seeds often germinate and renew the growth cycle." http://www.wapms.org/plants/hyacinth.html (Accessed 17 March 2003). 																							
Habitat: "Plants grow in ponds, canals, rivers, ditches, and impoundments, reproducing by vegetative runners or stolons." http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html (Accessed 17 March 2003).																							
Attitude (aggressive, etc.): "Most important nuisance aquatic plant worldwide, and in US (\$5M/yr in Florida)"... "Major negative impact on aquatic ecosystems." http://www.apms.org/plants/waterhyacinth.htm (Accessed 17 March 2003). "...covering as many as 125,000 acres of water: boat traffic on several rivers was halted; hundreds of lakes and ponds were covered from shore to shore with up to 200 tons of hyacinths per acre!" http://aquat1.ifas.ufl.edu/hyacin2.html (Accessed 17 March 2003).																							
Physical Description: "Floating rosette, showy purple flower, propagates vegetatively by daughter plant production." http://www.apms.org/plants/waterhyacinth.htm (Accessed 17 March 2003). "Water hyacinth is a free-floating plant, which grows up to three feet in height. It has thick, waxy, rounded, glossy leaves, which rise well above the water surface on stalks. The leaves are broadly ovate to circular, 4 to 8 inches in diameter, with gently incurved sides, often undulate. Leaf veins are dense, numerous, fine and longitudinal. Water hyacinth leaf stalks are bulbous and spongy. Water hyacinth grows an erect thick stalk (to 20 inches long) at the top of which is a single spike of several (8 to 15) showy flowers. The flowers have 6 petals, purplish blue or lavender to pinkish, the upper petals with yellow, blue-bordered central splotches. Water hyacinth reproduces vegetatively by short runner stems (stolons) that radiate from the base of the plant to form daughter plants, and																							

also reproduces by seed. Its roots are purplish black and feathery.” <http://aquat1.ifas.ufl.edu/hyacin2.html> (Accessed 17 March 2003).

“Plants grow floating on the water surface, forming stolons. Plants have very prominent black, stringy roots. Plants sometimes grow stranded in mud and appear rooted. The leathery leaves appear basal, are suborbicular, ovate or broadly elliptic with parallel veins; bases are heartshaped, square, or rounded, apices rounded or flattened. Petioles are usually spongy-inflated. The inflorescence is a spike with light-blue to bluish-purple showy flowers marked with yellow streaks. The fruit is many seeded.”

<http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html> (Accessed 17 March 2003).

Management Recommendations / Control Strategies: include references for existing site-specific strategies

“Now, however, water hyacinth in Florida is under "maintenance control", thanks to years of concerted effort by local, state and federal water managers. Maintenance control means that plant managers have the plants at a low level, and keep them at a low level using herbicides, machines and biocontrol insects. If only a year passed without constant vigilance by the couple of hundred aquatics management agencies in the state, water hyacinths likely would return to infestation levels that would require millions of dollars worth of effort to return to maintenance levels.” <http://aquat1.ifas.ufl.edu/hyacin2.html> (Accessed 17 March 2003).

Biological Controls:

Mottled water hyacinth weevil – *Neochetina eichhornia*: life cycle 90 –120 days

Chevroned water hyacinth weevil – *Neochetina bruchi*

Argentina water hyacinth Moth – *Sameodes albipuncta* – Life cycle 30 days

Larval stage US native pickerelweed boror – *Bellura densa*

<http://aquat1.ifas.ufl.edu/hyacin2.html> (Accessed 17 March 2003).

References (includes journals, agency/university reports, and internet links):

1. APMS - <http://www.apms.org/plants/waterhyacinth.htm>
2. IFAS - <http://aquat1.ifas.ufl.edu/hyacin2.html>
3. STPL - <http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html>
4. http://www.geocities.com/RainForest/Vines/7025/water_hyacinth.html
5. USDA - <http://www.nal.usda.gov/ttic/tektran/news/waterhyacinth.htm>
6. TNC - <http://tncweeds.ucdavis.edu/esadocs/documnts/eichcra.html>
7. WAPMS - <http://www.wapms.org/plants/hyacinth.html>

Available Mapping Information:

STPL - <http://www.wes.army.mil/el/pmis/plants/html/eichhorn.html>

Notes: “Northern range limited by heavy freezing.” <http://www.apms.org/plants/waterhyacinth.htm> (Accessed 17 March 2003).